

b.) Claims: cancel all claims in record and substitute new claims 67 to 86 as follows.

67. A method for continuous drawing of fibers, comprising:

- (a) feeding the fiber at an inlet speed to an apparatus for fiber drawing,
- (b) providing the fiber drawing apparatus which comprises a conveyer-drawing structure comprising at least two conveyer-drawing members for conveying and simultaneous drawing of the fiber,
- (c) providing the conveyer-drawing members which:
 - (1) disposed about a central axis which is parallel to a direction of conveying,
 - (2) have receiving ends for receiving the fiber and delivery ends for delivering the fiber, and both the receiving ends and the delivery ends are supported and spaced along the central axis,
 - (3) positioned at a divergence angle α to the central axis in such a way that the delivery ends are spaced further from the central axis than the receiving ends,
- (d) laying the fiber continuously into coiled loops on the receiving ends of the conveyer-drawing members,
- (e) drawing the fiber at the draw speed by expanding a circumference of the fiber loops while conveying the fiber loops along the central axis from the receiving ends to the delivery ends by the conveyer-drawing members, a layer comprising the coiled fiber loops being formed on the conveyer-drawing members, and
- (f) conveying the drawn fiber from the fiber drawing apparatus at an outlet speed V_{outlet} wherein a ratio of fiber outlet speed V_{outlet} to a fiber speed $(V_{\text{fiber}})_{\text{max}}$ is substantially greater than 1 to 1, fiber speed $(V_{\text{fiber}})_{\text{max}}$ being the highest value of a linear speed of fiber points along the fiber axis in the process of drawing.

68. The method of claim 67, providing the fiber drawing apparatus which:

- (a) further comprises a fiber feed means for feeding the fiber to the drawing apparatus wherein the feed means comprises a fiber-winding flyer rotating about the central axis and winding continuously the incoming fiber into coiled loops on the receiving ends of the conveyer-drawing members, and

(b) further comprises a fiber take-off means for taking off the leading fiber loops from the delivery ends of the conveyer-drawing members wherein the take-off means comprises a fiber-unwinding flyer rotating about the central axis and unwinding and taking off continuously the leading fiber loops from the delivery ends of the conveyer-drawing members,

69. The method of claim 67, providing the conveyer-drawing members which are rotating spindles having fiber displacing members facilitating conveying and simultaneous drawing of the fiber, wherein the displacing members are selected from the group consisting of threads and spiral grooves, and wherein the rotating spindles slowly rotate the fiber loops about the central axis, contact points between the fiber and the spindles being not permanent.

70. The method of claim 67, providing the conveyer-drawing members which are selected from the group consisting of circulating endless chains, cables, belts, bands, cords, and escalator-type moving stairs having a plurality of fiber displacing members facilitating the conveying and simultaneous drawing of the fibers.

71. The method of claim 70, providing the displacing members, which are free-to-rotate rollers with circular grooves, wherein the fiber is placed in the grooves of the rollers such that the rollers support the coiled fiber loops.

72. The method of claim 71, providing the rollers, which are driven about their axes, the fiber loops being slowly rotated about the central axis by the rotating rollers, and contact points between the fiber and the rollers being not permanent.

73. The method of claim 70, providing the displacing members selected from the group consisting of semi-rings, plates, rods, and pins.

74. The method of claim 67, providing the drawing apparatus, which further comprises a means for adjusting the fiber draw ratio, the means being selected from the group consisting of (a) a means for adjusting the distance between the receiving ends and the central axis, (b) a means for changing a position along the central axis where the fiber is received on the conveyer-

drawing members, (c) a means for adjusting the distance between the delivery ends and the central axis, and (d) a means for changing a position along the central axis where the fiber is taken off from the conveyer-drawing members.

75. The method of claim 67, further including heating the fiber using a heat chamber while the fiber being conveyed and drawn, wherein the heat chamber is supplied with a heat medium selected from the group consisting of hot air, hot inert gas, and superheated steam.

76. The method of claim 67, further including heating the fiber using a heater while the fiber being conveyed and drawn, wherein the heater is selected from the group consisting of hot plates and baths of an active media.

77. An apparatus for continuous drawing of fibers, comprising:

(a) a conveyer-drawing structure comprising at least two conveyer-drawing members for conveying and simultaneous drawing of the fiber

wherein the conveyer-drawing members are disposed about a central axis, which is parallel to a direction of conveying,

wherein the conveyer-drawing members have receiving ends for receiving the fiber and delivery ends for delivering the fiber, and both the receiving ends and the delivery ends are supported and spaced along the central axis,

wherein the conveyer-drawing members are positioned at a divergence angle α to the central axis in such a way that the delivery ends of the conveyer-drawing members are spaced further from the central axis than the receiving ends,

wherein the conveyer-drawing members draw the fiber in the form of coiled loops at a draw speed by expanding a circumference of the fiber loops while conveying the fiber loops along the central axis from the receiving ends to the delivery ends, a layer comprising the coiled fiber loops being formed on the conveyer-drawing members,

(b) a feed means for laying the fiber continuously into the coiled loops on the receiving ends of the conveyer-drawing members,

(c) a take-off means for taking off continuously the leading fiber loops from the delivery ends of the conveyer-drawing members and conveying the drawn fiber from the fiber drawing apparatus at an outlet speed V_{outlet} , and

wherein the fiber drawing apparatus is constructed and arranged to provide a ratio of fiber outlet speed V_{outlet} to a fiber speed $(V_{\text{fiber}})_{\text{max}}$ substantially greater than 1 to 1, fiber speed $(V_{\text{fiber}})_{\text{max}}$ being the highest value of a linear speed of fiber points along the fiber axis in the process of drawing,

78. The apparatus of claim 77, further comprises:

(a) a fiber feed means for feeding the fiber to the drawing apparatus wherein the feed means comprises a fiber-winding flyer rotating about the central axis and winding continuously the incoming fiber into coiled loops on the receiving ends of the conveyer-drawing members, and

(b) a fiber take-off means for taking off the leading fiber loops from the delivery ends of the conveyer-drawing members wherein the take-off means comprises a fiber-unwinding flyer rotating about the central axis and unwinding and taking off continuously the leading fiber loops from the delivery ends of the conveyer-drawing members,

wherein the conveyer-drawing structure is stationary.

79. The apparatus of claim 77 wherein the conveyer-drawing members are rotating spindles having a fiber displacing members facilitating the conveying and simultaneous drawing of the fiber in the form of coiled fiber loops, wherein the displacing members are selected from the group consisting of threads and spiral grooves, and wherein the rotating spindles slowly rotate the fiber loops about the central axis, contact points between the fiber and the spindles being not permanent.

80. The apparatus of claim 77 wherein the conveyer-drawing members are selected from the group consisting of circulating endless chains, cables, belts, bands, cords, and escalator-type moving stairs having a plurality of fiber displacing members facilitating the conveying and simultaneous drawing of the fibers.

81. The apparatus of claim 80 wherein the displacing members are free-to-rotate rollers with circular grooves, wherein the fiber is placed in the grooves of the rollers such that the rollers support the coiled fiber loops.

82. The apparatus of claim 81 wherein the rollers are driven about their axes, the coiled fiber loops being slowly rotated about the central axis by the rotating rollers, and contact points between the fiber and the rollers being not permanent,

83. The apparatus of claim 80 wherein the displacing members are guide members selected from the group consisting of semi-rings, plates, rods, and pins.

84. The drawing apparatus of claim 77, further comprising a means for adjusting the fiber draw ratio selected from the group consisting of (a) a means for adjusting the distance between the receiving ends and the central axis, (b) a means for changing a position along the central axis where the fiber is received on the conveyer-drawing members, (c) a means for adjusting the distance between the delivery ends and the central axis, and (d) a means for changing a position along the central axis where the fiber is taken off from the conveyer-drawing members..

85. The apparatus of claim 77, further comprising a heat chamber for heating the fiber while it being conveyed and drawn, wherein the heat chamber is supplied with a heat medium selected from the group consisting of hot air, hot inert gas, and superheated steam

86. The apparatus of claim 77, further comprising a heater for heating the fiber while it is being conveyed and drawn, wherein the heater is selected from the group consisting of hot plates and baths of an active media.